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| 09/873,796 | 06/04/2001 | Makis Kasapidis | 491.046US1 | 3761 |

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| EXAMINER | |
|---|---|
| GARY, ERIKA A | |

| ART UNIT | PAPER NUMBER |
|---|---|
| 2681 | 18 |

DATE MAILED: 04/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 09/873,796 | KASAPIDIS, MAKIS | |
| | Examiner | Art Unit | |
| | Erika A. Gary | 2681 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *26 January 2004* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *18-27* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *18-27* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☒ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

## DETAILED ACTION

### *Priority*

1. Acknowledgment is made of applicant's claim for foreign priority based on an application filed in Europe on October 6, 1999. It is noted, however, that applicant has not filed a certified copy of the 99307888.0 application as required by 35 U.S.C. 119(b).

### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 21, 22, 24, 26, and 27 are rejected under 35 U.S.C. 102(e) as being anticipated by Rantalainen et al., US Patent Number 6,667,963 (hereinafter Rantalainen).

Regarding claim 21, Rantalainen discloses a positioning element for use in positioning mobile stations communicating with a controlling base station of a cellular network via an air interface and in which the positioning element: synchronizes with downlink transmissions of the controlling base station, and transmits positioning signals with predetermined delays in relation to receipt of certain instances of signals transmitted from the controlling base station, said positioning signals comprising

information identifying the positioning element [abstract; col. 4: lines 10-18, 38-43, 52-60; col. 5: lines 6-11, 26-28].

Regarding claim 22, Rantalainen discloses a positioning element for use in positioning mobile stations communicating with a controlling base station of a cellular network via the air interface and in which the positioning element: synchronizes with downlink transmissions of the controlling base station, and transmits positioning signals periodically at predetermined times relative to the time of detection by said positioning elements of a signal or part of a signal transmitted by said base station, and without instruction by said base station, said positioning signals comprising information identifying the positioning element [abstract; col. 4: lines 10-18, 38-43, 52-60; col. 5: lines 6-11, 26-28].

Regarding claim 24, Rantalainen discloses a mobile station for communicating with a cellular network comprising a controlling base station and a plurality of positioning elements each of which is capable of generating a positioning signal, and in which the mobile station synchronizes with downlink transmissions from said controlling base station and detects positioning signals transmitted from positioning elements synchronized to said downlink transmissions, wherein the timing window for the expected time of arrival of the positioning signals to be detected are transmitted to the mobile station from the controlling base station in advance of receipt of the positioning signals at the mobile station, each positioning signal comprising information identifying the positioning element which transmitted said positioning signal [abstract; col. 4: lines 10-18, 38-43, 52-60; col. 5: lines 6-11, 26-28].

Regarding claims 26 and 27, Rantalainen discloses that the positioning element does not transmit any information to said controlling base station [abstract; col. 4: lines 10-18, 38-43, 52-60; col. 5: lines 6-11, 26-28].

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rantalainen in view of Fitzgerald et al., US Patent Number 5,765,112 (hereinafter Fitzgerald).

Regarding claim 18, Rantalainen teaches a method of positioning a mobile station in a cellular network including a controlling base station and a plurality of positioning elements each of which is capable of generating a positioning signal, wherein said controlling base station controls communications within a cell and wherein said controlling base station performs the steps of: generating and transmitting a positioning instruction to a mobile station, said positioning instruction signal identifying an expected time of arrival of said positioning signals by said mobile station; causing said plurality of positioning elements to generate and transmit said positioning signals, each said positioning signal comprising information identifying the positioning element which transmitted said positioning signal; and receiving a report from the mobile station

in an uplink communication on the results of detection of said positioning signals by said mobile station [abstract; col. 4: lines 10-18, 38-43, 52-60; col. 5: lines 6-11, 26-28].

What Rantalainen does not specifically disclose is the step of paging positioning elements within the cell to transmit said positioning signals. However, Fitzgerald teaches this limitation.

Fitzgerald discloses a cellular network wherein a controlling station pages positioning elements within the cell to transmit said positioning signals [col. 3: lines 24-45; col. 3: line 63 – col. 4: line 2; col. 12: lines –64].

Rantalainen and Fitzgerald are combinable because they are from the same field of endeavor, that is, positioning of a mobile station in a cellular network. At the time of the invention, it would have been obvious to one of ordinary skill in the art to modify Rantalainen to include the paging feature of Fitzgerald. The motivation for this modification would have been to provide a means to specifically instruct the positioning element to transmit the positioning signals in order to conserve power and resources by not having the positioning element transmit the information unnecessarily or when it is not needed.

Regarding claim 19, the Examiner takes Official Notice that it is well known in the art to re-page or re-instruct a device to perform a function when the function is not initially completed successfully. It would have been obvious to one of ordinary skill in the art at the time of the invention to re-page a positioning element within a predetermined time if the reported results of detection are insufficient. The motivation

for the inclusion of this feature would be to improve system efficiency by including a redundancy function (re-paging) to ensure that the function is executed successfully.

Regarding claim 20, the Examiner takes Official Notice that it is well known in the art to retransmit a signal at an increased power level if the first transmission is not received successfully. It would have been obvious to one of ordinary skill in the art at the time of the invention to instruct the positioning element to re-transmit its positioning signal at the next allotted time with a power level increased by a predetermined amount. The motivation for the inclusion of this feature would be to improve system efficiency by including a redundancy function (re-transmitting) to ensure that the signal is received successfully.

6. Claims 21-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over applicant's submission of prior art, Dunn et al., US Patent Number 5,600,706 (hereinafter Dunn) in view of Fitzgerald.

Regarding claims 21 and 22, Dunn discloses a positioning element for use in a positioning mobile stations communicating with a controlling base station of a cellular network via an air interface [fig. 2] and in which the positioning element: synchronizes with downlink transmissions of the controlling base station [col. 5: lines 51-59], and transmits positioning signals with predetermined delays (or periodically at predictable times), said positioning signals comprising information identifying the positioning element [col. 6: lines 9-12; col. 8: lines 12-16].

What Dunn does not specifically disclose is the step of paging or sending a signal or part of a signal to positioning elements to transmit said positioning signals. However, Fitzgerald teaches this limitation.

Fitzgerald discloses a cellular network wherein a controlling station pages positioning elements within the cell to transmit said positioning signals [col. 3: lines 24-45; col. 3: line 63 – col. 4: line 2; col. 12: lines –64].

Dunn and Fitzgerald are combinable because they are from the same field of endeavor, that is, positioning of a mobile station in a cellular network. At the time of the invention, it would have been obvious to one of ordinary skill in the art to modify Dunn to include the paging feature of Fitzgerald. The motivation for this modification would have been to provide a means to specifically instruct the positioning element to transmit the positioning signals in order to conserve power and resources by not having the positioning element transmit the information unnecessarily or when it is not needed.

Regarding claim 23, Dunn teaches a CDMA cellular network and in which the positioning signals comprise spreading codes uniquely associated with each positioning element [col. 8: lines 16-21; col. 13: lines 45-50].

7. Claims 24 and 25 are rejected under 35 U.S.C. 102(b) as being anticipated by Dunn in view of Rantalainen.

Regarding claim 24, Dunn discloses a mobile station for communicating with a cellular network comprising a controlling base station and a plurality of positioning elements each of which is capable of generating a positioning signal, and in which the

mobile station synchronizes with downlink transmissions from said controlling base station [fig. 2] and detects positioning signals transmitted from positioning elements (range transceivers) synchronized to said downlink transmissions and wherein each positioning signal comprises information identifying the positioning element which transmitted the positioning signal [col. 8: lines 12-16; col. 10: lines 31-36].

What Dunn does not specifically disclose is that the timing window for the expected time of arrival of the positioning signals to be detected is transmitted to the mobile station from the controlling base station in advance of receipt of the positioning signals at the mobile station. However, Rantalainen teaches this limitation [col. 4: lines 2-60].

Dunn and Rantalainen are combinable because they are from the same field of endeavor, that is, positioning of a mobile station in a cellular network. At the time of the invention, it would have been obvious to one of ordinary skill in the art to modify Dunn to include the timing feature of Rantalainen. The motivation for this modification would have been to provide a means to specifically instruct the mobile station as to when to expect the positioning signals so that the signals are not lost.

Regarding claim 25, Dunn discloses operating with a CDMA cellular network [col. 5: lines 45-49] in which the results of the detection of positioning signals are reported to the controlling base station in uplink communication with the base station [col. 8: lines 33-46; col. 16: lines 22-26].

***Response to Arguments***

8. Applicant's arguments with respect to claims 18-27 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Erika A. Gary whose telephone number is 703-308-0123. The examiner can normally be reached on Monday-Thursday and alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, supervisor Marsha Banks-Harold can be reached on 703-305-4379. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9306 for regular communications and (703) 872-9306 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-4750.

ERIKA GARY
PATENT EXAMINER

EAG
April 18, 2004